WHAT IS CLAIMED IS:

1. A closed loop cooling circuit within a turbine nozzle including first, second and third cavities, an outer band, and an inner band, the cooling circuit comprising:

an inlet receiving cooling medium flow;

a first duct insert disposed in the second cavity, the first duct insert receiving the cooling medium flow via the inlet and duct flowing the cooling medium flow to a bottom of the second cavity;

an impingement insert disposed in the first cavity and receiving the cooling medium flow from the first duct insert;

a first impingement plate disposed within the outer band and defining an outer band cooling path within the outer band, the outer band cooling path receiving the cooling medium flow from the first cavity;

wherein a second cavity cooling path is defined between the first duct insert and a second cavity wall, the second cavity cooling path receiving the cooling medium flow from the outer band cooling path;

a second impingement plate disposed within the inner band and defining an inner band cooling path within the inner band, the inner band cooling path receiving the cooling medium flow from second cavity cooling path; and

a second duct insert disposed in the third cavity defining a third cavity cooling path between the second duct insert and a third cavity wall, the third cavity cooling path receiving the cooling medium flow from the inner band cooling path.

2. A closed loop cooling circuit according to claim 1, further comprising an elbow connection disposed between the first duct insert and the impingement insert, the elbow connection guiding the cooling medium flow from the first duct insert to the impingement insert.

3. A closed loop cooling circuit according to claim 1, further comprising an exit flange disposed at an end of the third cavity cooling path, the cooling medium flow being exhausted from the turbine nozzle via the exit flange.

4. A closed loop cooling circuit according to claim 1, wherein the cooling medium flow is steam.

5. A closed loop cooling circuit according to claim 1, wherein the cooling medium flow is air.

6. A cooling circuit within a turbine nozzle including first, second and third cavities, an outer band, and an inner band, the cooling circuit comprising:

an inlet receiving cooling medium flow;

a first duct insert disposed in the second cavity, the first duct insert receiving the cooling medium flow via the inlet;

an elbow connection receiving the cooling medium flow via the first duct insert, the elbow connection guiding the cooling medium flow toward the first cavity;

an impingement insert disposed in the first cavity, the impingement insert receiving the cooling medium flow via the elbow connection;

a first impingement plate disposed within the outer band and defining an outer band cooling path within the

outer band, the outer band cooling path terminating in a communication slot adjacent the second cavity, wherein the cooling medium flow passes through the communication slot via the outer band cooling path;

wherein a second cavity cooling path is defined between the first duct insert and a second cavity wall, the second cavity cooling path receiving the cooling medium flow via the communication slot;

a second impingement plate disposed within the inner band and defining an inner band cooling path within the inner band, the inner band cooling path terminating in a third cavity entrance, wherein the cooling medium flow passes through the third cavity entrance via the inner band cooling path; and

a second duct insert disposed in the third cavity defining a third cavity cooling path between the second duct insert and a third cavity wall, the third cavity cooling path receiving the cooling medium flow via the third cavity entrance.

7. A cooling circuit according to claim 6, further comprising an exit flange disposed at an end of the third cavity cooling path, the cooling medium flow being exhausted from the turbine nozzle via the exit flange.

8. A cooling circuit according to claim 6, wherein the cooling medium flow is steam.

9. A cooling circuit according to claim 6, wherein the cooling medium flow is air.

10. A cooling circuit according to claim 6, wherein the cooling circuit is a closed loop.

11. A method of cooling a turbine nozzle via a cooling circuit, the turbine nozzle including first, second and third cavities, an outer band, and an inner band, the method comprising:

duct flowing a cooling medium flow to a bottom of the second cavity via a first duct insert and guiding the cooling medium flow toward the first cavity;

impingement cooling the first cavity with the cooling medium flow;

defining an outer band cooling path within the outer band, and impingement cooling the outer band with the cooling medium flow;

defining a second cavity cooling path within the second cavity between the first duct insert and a second cavity wall, and duct cooling the second cavity with the cooling medium flow;

defining an inner band cooling path within the inner band, and impingement cooling the inner band with the cooling medium flow; and

defining a third cavity cooling path within the third cavity between a second duct insert and a third cavity wall, and duct cooling the third cavity with the cooling medium flow.